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ABSTRACT

This paper reports the case study of a classroom teacher who made systematic and conscious preactive and interactive decisions. Four questions guided the research. The primary question was "Does a teacher use a systematic decision model?" The three secondary questions were: (1) Does this teacher make preactive and interactive decisions? (2) What governs this teacher's decisions? and (3) What is the interaction between this teacher's decision making and the need to maintain activity flow? The study discovered that the teacher used a six-phase decision model that integrates preactive and interactive decisions. It was also found that: (1) a set of conscious assumptions governed the teacher's decisions; (2) smooth activity flow was essential for her success; and (3) she taught the pupils to be responsible for their own behavior. Each step of the six-phase decision model is described in detail. (Author/JD)

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ONE EXCEPTIONAL TEACHER'S SYSTEMATIC DECISION-MAKING MODEL

Joyce G. Putnam

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Abstract

This paper reports the case study of a classroom teacher who made systematic and conscious preactive and interactive decisions. Four questions guided the research. The primary question was "Does a teacher use a systematic decision model?" The three secondary questions were (1) does this teacher make preactive and interactive decisions, (2) what governs this teacher's decisions, and (3) what is the interaction between this teacher's decision making and the need to maintain activity flow? It was found that (1) the teacher used a six-phase decision model integrating preactive and interactive decisions, (2) a set of conscious assumptions governed her decisions, (3) smooth activity flow was essential for her success, and (4) she taught the pupils to be responsible for their own behavior.

ONE EXCEPTIONAL TEACHER'S SYSTEMATIC DECISION-MAKING MODEL[1]

Joyce G. Putnam[2]

That teachers should make systematic preactive and interactive decisions has long been an assumption held by educators. However, findings from recent research in the areas of teacher effectiveness, teachers' planning, teachers' decisions, teachers' conceptions of reading, and classroom reading practices have caused educators to reconsider whether teachers can make and consistently act on data-based decisions. This study documents and describes one teacher's preactive and interactive decisions.

Background

Researchers have found that teachers do not make decisions based on the use of a theoretical planning model that proceeds from selection of objectives to instructional activities to evaluation (McCutcheon, 1980; Clark & Yinger, 1980; Putnam, 1982). During planning, teachers seem to focus on activity selection (McCutcheon, 1980; Clark & Yinger, 1979) and on what is to be covered in a general sense (Morine-Dershimer, 1979). In some cases (Kyle, 1980), teacher planning is constrained by perceived environmental restrictions and turns out to be merely scheduling text materials according to the principal's (or other institutional spokesperson's) expectations.

While evidence indicates that some teachers make data-based decisions in preactive planning, there is little evidence that they use the data base for

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[1]This paper was presented at the 1983 annual meeting of the American Educational Research Association, Montreal, Canada.

[2]Joyce Putnam is an IRT researcher and an associate professor in the Department of Teacher Education at MSU.

actual interactive decision making in the classroom (Duffy, 1980). In a large-scale, naturalistic study, Duffy and Anderson (1982) tried to determine whether teacher conceptions of reading are the foundation upon which teachers base instructional decisions about classroom reading instruction. They studied the reading conceptions of 23 elementary teachers over three years and found that "classroom teachers may possess abstract theoretically-based conceptions of reading, but these conceptions do not significantly influence their teaching of reading" (p. 10). Duffy and Anderson noted that while teachers do not reject theories of reading, their conceptions of reading are mediated by classroom conditions more immediately crucial to them. Apparently, even the best laid teaching plan is usually distorted or dropped during implementation. This seems to be based on teachers' perceptions that they must respond to environmental factors in a particular way, and they therefore react to classroom events rather than control them by making data-based, interactive decisions.

If educators are to determine whether effective teachers do make consistent and systematic data-based decisions, they need descriptions of *effective* teachers' decision models and decisions. Consequently, I focused on describing one teacher's decisions and her decision model.

Ms. Forero[3] was selected for study for four reasons. First, she had been observed making what were thought to be data-based interactive and preactive decisions for seven years,[4] although this had not been systematically

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[3]Forero is a pseudonym.

[4]Forero had been observed because she was a cooperating teacher in an MSU teacher education program. She had also acted as consultant to MSU researchers and teacher educators who were developing research projects and undergraduate teacher education programs.

documented. Second, she seemed conscious of her own decision making. Third, her instruction emphasized basic skills, social responsibility, and individuality. Finally, her teaching resulted in above average pupil gains in reading (pupil gains on the Gates-MacGinitie Reading Test averaged 1.6 years in 1974-75 and 1.9 years in 1975-76), which substantiated her effectiveness as a teacher.

This study focused on one major question: Does a sample teacher use a systematic decision-making model? I posed three further questions:

1. Does this teacher make preactive and interactive decisions?
2. What governs this teacher's decisions?
3. What is the interaction between this teacher's decision making and the need to maintain activity flow?

Setting

The classroom chosen for this study was located in a rural, midwestern consolidated school district. The district covers 154 square miles and includes four counties, eight townships, and three rural villages. The district serves a diverse but predominantly low socioeconomic status population. The district's student enrollment was 2,004; approximately 8% of the student population was of Hispanic origin. Due to the physical size of the district, most students came by bus, some from as far as 75 miles away.

Forero's class occupied one of three portable classrooms next to a K-6 grade school. The students, 25 first and second graders, all met Title 1 criteria. The class met four half days (mornings), beginning on September 24th, and disbanded in March due to the teacher taking a parenting leave of absence.

Data Collection

Because I wanted to learn about the teacher's decisions and the dynamics of the classroom, I used ethnographic study techniques. Erickson (1977) has asserted that such techniques

> describe key incidents in functionally relevant descriptive terms and place them in some relation to a wider social context, using the key incidents as a concrete instance of the working of abstract principles of social organization. (p. 61)

The procedures included classroom participant observations, debriefing and verification sessions, interviews, and document collection. I collected data during the entire academic year, from September to March.

Participant observations. I made intensive classroom observations during the first three weeks of the academic school year because, according to Evertson and Anderson (1978), classroom experiences at the beginning of the year strongly influence what transpires thereafter. I made the observations on 12 of the first 17 school days, including the first day, and 3 of the next 10 school days. Then, between November and March, I observed on 9 more school days. One observation occurred in November and two observations per month were completed in December, January, February, and March. A total of 24 four-hour classroom observations were conducted for a total of 96 hours of observations.

Observations began at 8:00 a.m., one hour before the formal starting time of school (9:00 a.m.) and continued until approximately 45 minutes after the formal ending (11:45 a.m.) of the class. Observations were recorded through the use of field notes, photographs, and audio tapes.

Debriefing/verification sessions. The verification and debriefing sessions preceded and/or followed the classroom observation sessions. These

sessions included the teacher making any comments she chose about the forthcoming or completed lessons and then responding to questions that I generated from my field notes. Twenty-four debriefing sessions were held, one for each classroom observation.

Interview sessions. Three types of interviews occurred. The first involved collecting demographic data and clarifying and explaining observations and preliminary data analyses. These interviews averaged two hours (ranging from one to four hours) and were scheduled for days when there was to be no observation.

The second type of interview simulated a teacher asking Forero for help to plan a third/fourth-grade unit of instruction so that s/he could "teach" like Forero. This procedure clarified Forero's decisions about content and process issues throughout the study and verified her instructional planning process. Recurring simulation interview questions were as follows:

1. What guidelines would you give a teacher to help her/him select a topic of instruction?
2. What questions would you ask the teacher?
3. What information do you need from the teacher?
4. What do you tell the teacher?
5. How would you show the teacher. . .?
6. What examples?

The third type of interview took place in the spring and consisted of Forero and I collaborating on an article for publication. Together we described how she integrated subject matter in her teaching. Collaborating on an article created the opportunity to collect data about her perception of important elements of the decision-making model and the accuracy of the decision-making model I deduced she used (see next section for details), and

served as the final data collection and verification of the critical elements of her decision-making model.

Documentation. Materials used to verify observations and interview data were collected from Forero, students, school administrators, and aides. These included students' work, maps of spatial and temporal relationships in the classroom, and teacher planning products.

Data Analysis

With the data, I intented to create a model of decision making. After analyzing, categorizing, ordering, and verifying data, three models emerged, each succeeding model verifying elements of the previous one until a final fourth model verified all elements. The analysis proceeded as follows.

Decision model. First, I made notations in the margins of all field notes from classroom-observation tape transcripts (on Type 1 interviews, classroom observation notes, and teacher planning documents) about the type of teacher decisions that were made. I subdivided the decisions into preactive or interactive. Then I identified those decisions involving instructional content and management. At this point I diagrammed a decision-making model. With this first model in mind I interviewed Ferero to ascertain the accuracy of its represention of her perceptions about her decision making.

Next, I identified the interview data that explained her planning of the initial unit of instruction and integrated it with the decisions identified in the first model I developed. I presented her with a second model of instructional decision making for verification of accuracy.

Then I analyzed her feedback, new sets of classroom observation data, and the interview data from the simulation. I classified the types of decisions

she made as preactive or interactive and developed a third model. I asked Forero for her feedback and noted parts of the model she considered unclear or inaccurate. Then I set this model aside.

I analyzed the field notes, tape transcriptions of our article-writing sessions, and the final copy of our article to identify the documented decisions. The framework for analysis included information from two places. The first was the decision model developed to date. The second was based on a list of items that the journal editor to whom we submitted the article requested be played down, excluded, or focused on. Based on this analysis, the final decision-making model, with examples of preactive and interactive decisions, was verified.

Findings: The Decision-Making Model

A primary feature of Forero's decision making is that she made decisions concerning long-term outcomes. Then she used the long-term outcomes (e.g., goals and objectives for pupils to master by the end of the year, how pupils were to behave in the classroom) as the basis for shorter-term preactive curriculum (unit planning) and management (routines/procedures) decisions. She also used the results of the long-term decisions as a basis for interactive decisions.

In other words, the making of preactive and interactive decisions during the year was guided by her long-term intended outcomes. Thus, Forero's initial decisions (see Figure 1, Phase 1a and 2a) provided the basis or guidelines for all other decisions. She viewed herself as goal directed and illustrated this by saying she frequently asked herself, "What are you trying to get done?" She was systematic in her decision making. The model she used is described next.

The decision-making model Forero used has six identifiable phases, which follow in sequential order:

Phase 1. Data collection and synthesis

Phase 2. Preactive decision making

Phase 3. a. Data collection
b. Interactive decision making

Phase 4. a. Reflective thinking and synthesis
b. Preactive decision making

Phase 5. Interactive decision making

Phase 6. Data collection and verification of student achievement

The system for Forero's decision making, in its simplest form, consisted of data collection, data synthesis, and data-based decision making. Data collection included taking in new information and recalling data previously collected. In data synthesis, she integrated new and old data then narrowed them down to a usable size and form. Decision making proceeded from the synthesis.

During planning and teaching, Forero collected more data with which to make decisions. Through the synthesis process she organized and reduced the data. Once the data were collected and organized, she made decisions. This set of processes operated in a systematic fashion (see Figure 1). Her decision-making model required integration of both her planning and teaching behavior.

Before the year's school session had begun, she used the first two phases of the model to formulate the goals and objectives for which she would hold the pupils accountable. After making the initial decisions about these objectives, the six-phase model was cycled as each new unit of instruction was developed, implemented, and completed.

The key characteristics of her decision-making model are its interactive nature and the content of her information processing. A brief description of each of the model's phases will help to illustrate this.

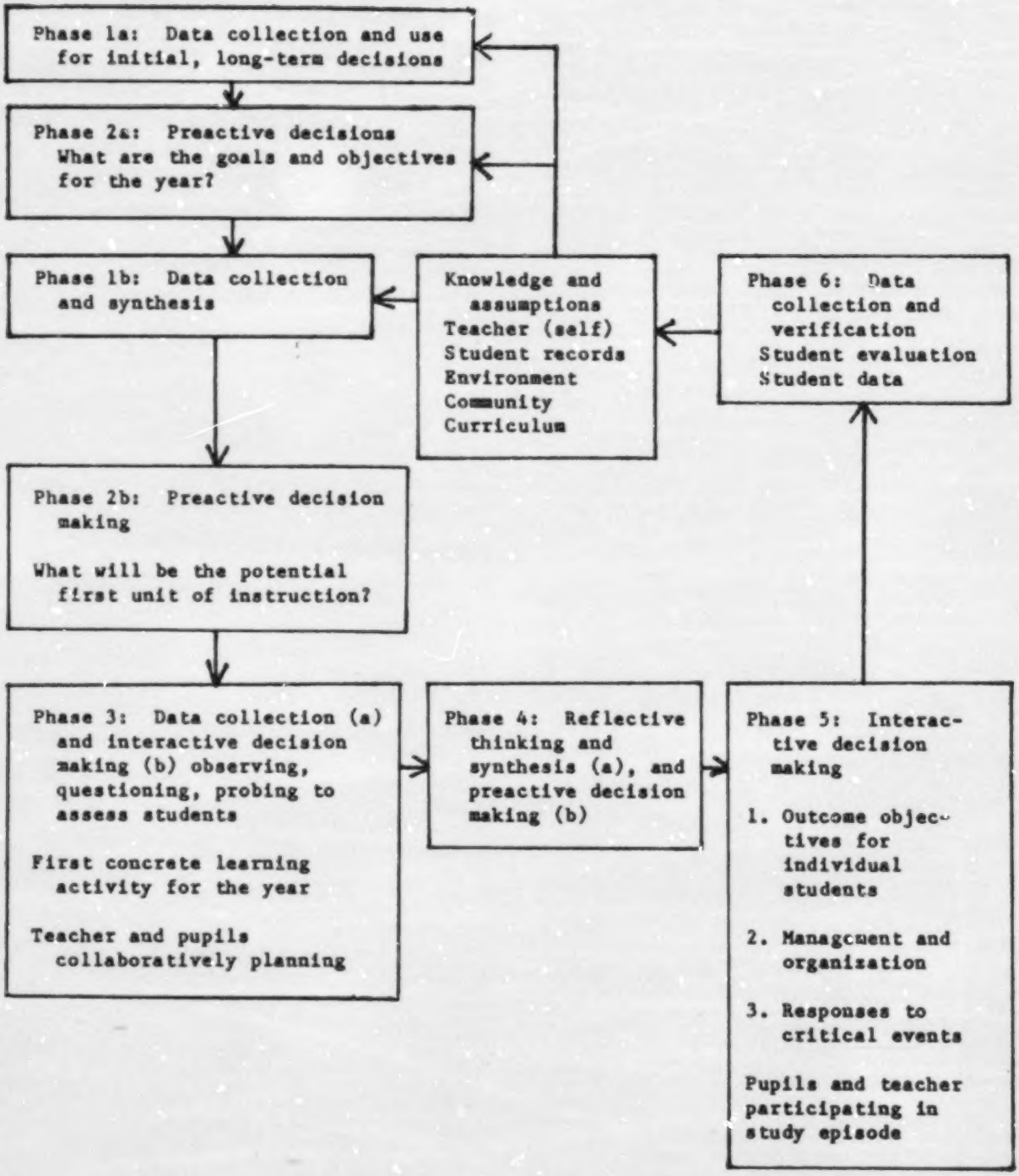
Phase 1a: Data collection and use for initial, long-term decisions
Phase 2a: Preactive decisions What are the goals and objectives for the year?
Phase 1b: Data collection and synthesis
Knowledge and assumptions Teacher (self) Student records Environment Community Curriculum
Phase 6: Data collection and verification Student evaluation Student data
Phase 2b: Preactive decision making
What will be the potential first unit of instruction?
Phase 3: Data collection (a) and interactive decision making (b) observing, questioning, probing to assess students
First concrete learning activity for the year
Teacher and pupils collaboratively planning
Phase 4: Reflective thinking and synthesis (a), and preactive decision making (b)
Phase 5: Interactive decision making
1. Outcome objectives for individual students
2. Management and organization
3. Responses to critical events
Pupils and teacher participating in study episode

Figure 1. Ms. Forero's decision model.

Phase 1. Data Collection and Synthesis

During the first phase Forero reflected on data she already possessed (e.g., what information the text contained, what specific objectives she thought third graders should achieve in reading) and gathered new data (e.g., reading the cumulative recording forms, talking with teachers who had taught her students the previous year, and looking at schedules of school events). She organized her knowledge into six categories:

1. knowledge about self (interests, strengths, philosophy, weaknesses);
2. assumptions based on knowledge and experience (transfer of knowledge/skills, learning, concept teaching);
3. students' previous experience and records (teacher talk, personal cumulative record source);
4. environment in classroom and school (how to use it to enhance learning);
5. curriculum (academic, personal, and social responsibility outcomes, topics); and
6. community (parent desires for their children, who can do what, businesses and other community institutions).

Phase 2. Preactive Decision Making

During the second phase Forero made preactive decisions based on synthesis of the data collected during Phase 1. She made preactive decisions when planning or implementing a unit of instruction and when she was alone and had the time to reflect and synthesize.

The first preactive decision she made was to use throughout the year an interactive instructional style (one in which pupils verbally interact with the teacher, and the teacher modifies his/her speech and actions based on what s/he observes) when working with children. It required that she first establish an environment that minimized her role in managing pupil behavior so that she could attend to the instructional interactions.

Once she had decided on an interactive instructional style, Forero made a sequence of decisions that resulted in the identification of long-term goals and objectives in three areas (pupil outcomes, environment, and curriculum). This sequence of preactive decisions included the three major areas of consideration as viewed by Forero:

1. Pupil outcomes: academic and social
2. Environmental management: pupil and instruction
3. Curriculum: content and process

Forero determined potential pupil outcomes based on what she thought a first-grade pupil should know and be able to do (goals and objectives) at the end of the year. During the year of this research study she had both first and second graders and thus identified terminal objectives for both grade levels. She determined individual objectives based on both the goals for the year and her specific assessment of a given pupil.

She organized environmental management decisions around the concept of a learning community. Thus, she made preactive decisions about management and organization of pupils and instruction to support the following: (1) group work, (2) cooperation, (3) use of routines and procedures that released the teacher for more instructional time, (4) use of community members in the classroom, and (5) use of the out-of-school community.

Forero viewed curriculum decisions as having to do with content and process. Her first decisions about topics were always tentative. She always interacted with pupils before finalizing her unit decisions. In this sequence of preactive decisions, the major curriculum decision was to choose a problem-solving activity that would allow her to assess pupil behavior and achievement directly related to the objectives she had identified for pupils to master over a period of six or seven weeks.

Take, for example, the topic of apples for the first curriculum unit of the year. It was one for which Forero knew the content, had personal experience with it, liked it, knew that her students had had some experience with it, and knew that it offered many opportunities for a variety of content knowledge and hands on experiences and that it provided cooperative working experiences. The decisions she made about the selection of the first unit of study were based on the above criteria. Her rationale was that topics that met these criteria allowed her to take in and process information about her pupils during instruction rather than spending a lot of interactive teaching time processing content information.

Once she identified a unit of instruction to develop with her pupils, she preactively planned an activity (e.g., making applesauce and writing an experience story) that allowed her to collect specific data about the pupils' skills and allowed her and the pupils to collaboratively plan the unit of study. The activity was planned to involve whole-class discussion and decision making, small-group work, and individual work.

At the end of the first sequence of preactive decisions, Forero had (1) identified a system for classroom management, (2) identified an area of study, (3) synthesized related knowledge, (4) listed pupil outcomes, (5) listed possible activities, and (6) identified potential recording systems. She kept these decisions tentative until the activity (making applesauce and writing an experience story) was finished.

Phase 3. Data Collection and Interactive Decision Making

In the third phase, Forero implemented the activity and observed her students during it. She planned for data collection and collaborative planning, then implemented her plan for the activity. This took from two to eight

hours of class time and ran from two to four days. She collected data concerning the pupils' school behavior and academic performance, which she would use in deciding which objectives and tasks to assign to which pupils.

The first sequence of interactive decisions, those related to the activity sessions (applesauce making), are characterized by the nature of the assessment task or the "teacher as learner" perspective. When Forero and her pupils met to collaboratively plan and/or decide something, her purpose was to communicate her thoughts and feelings and to understand or learn what the pupils' thoughts and feelings were. Thus, these interactive decisions were made primarily about selecting particular probing questions and pupil tasks in order to generate data concerning a specific pupil's knowledge, skills, and/or interests.

In practice, the sequence involved Forero deciding (sometimes preactively) what to ask a specific pupil and asking it, a pupil's response, two or three teacher probes and the pupil's responses and a closure statement. Generally, she started by asking the pupils to demonstrate something (e.g., read this, show me, tell me). Based on the pupils' responses she then asked probing questions. For example, she would say, "Remember when you showed me how to figure out words in that family, how did you do it? Will that work here? Show me how."

After listening to the pupils' responses, she brought closure to the interactions in one of two ways. She asked pupils to tell what they needed to do or she told them. For example, she said to a pupil, "What does it look like you need to work on next?" When she summarized she said, "You need to work on 'such and so' next. Listen for the assignment related to this; that is the one you will be working on."

Interactive decisions made during Phase 3 were primarily concerned with pupil assessment. This involved deciding how to elicit more information from pupils (what to ask pupils to do next) or verifying a pattern (e.g., lack of verbal skills, good recall, etc.) which appeared to be developing. At this stage she viewed interactive decisions as a means of assessing pupil behavior.

Phase 4. Reflective Thinking, Synthesis, and Preactive Decision Making

In Phase 4 Forero synthesized the data she collected in Phase 3 on the pupils' performance, experience, and interest in the proposed unit of study with the academic, personal, and social responsibility outcomes for pupils (identified in Phase 1).

She processed the above data in order to make and record a set of preactive decisions. These decisions answered the following questions:

1. Are there enough pupil interest and linkages to previous experiences to warrant pursuing this topic?
2. Will multiple activities for one individual or small groups be provided, or will everyone essentially do the same things?
3. In what content activities will each child participate?
4. How will we proceed from here?

By the end of Phase 4, she had either a plan for working with the class during Phase 5 or for starting a new assessment activity. If the answer to the first question concerning pupil interest and linkages was no, she selected a new topic and repeated Phases 2 and 3. When the answer to the first question was yes, she decided the answers to the rest of the questions. Thus, the next time Forero and her pupils met, she was ready to begin Phase 5.

The second sequence of preactive decisions occurred after the implementation of the initial activity (making applesauce and writing an experience story) when the teacher had collected data from her interactions with the

pupils. These preactive decisions were concerned with unit content and activities. The teacher decided at this time whether the students' life experiences provided enough ties to the topic (apples) to make the unit potentially successful. At this time she also determined if there was sufficient interest exhibited by students to pursue the particular area of study (i.e., were they interested in apple related things from which science and social studies concepts or other skills could be taught).

The next preactive decision in this sequence was whether the pupils would have the option to choose among activities or would work as an entire class on a single activity. Having made these decisions Forero started her unit of study.

In summary, Forero's preactive decisions in Phase 4 were based on (1) her up-to-date data bank on each child; (2) the group as an entity in itself; (3) anticipated academic, personal, and social outcomes; (4) her philosophy about the type of classroom she wanted to operate; and (5) the knowledge and skills she consciously held.

Phase 5. Interactive Decisions

In Phase 5 the sequence of interactive decisions included those made during an actual unit study and were not pupil-assessment oriented like the first type in Phase 3. This second sequence of interactive decisions involved decisions about four major topics:

1. Instruction--What do I say or do to provide instruction about a particular concept/skill/fact with a particular child?

2. Outcomes--If necessary, what changes in the objectives for which a given pupil is being held accountable will I suggest and/or agree to?

3. Activities--So that pupils will be successful, how must I reorganize an activity or change activities?

4. Pupil behavior--What must I do so that this individual gets in control of his/her behavior?

During whole-class instruction, Forero monitored the task accomplishment of students. Periodically, she said to a slower working pupil, "Finish the task." She and the class would move on. After a task or two, she walked to the pupil's desk and said, "Go to page xx and look at the board for examples and listen to me for directions."

The effect was that at times the entire class appeared to be working on a single activity. In fact, however, one or two individual assignments and two larger group assignments were being given and monitored. The interactive decisions related to the pacing for individualizing during whole-class instruction were based on the data the teacher had synthesized about individual pupils.

The second category was interactive decisions about outcome. These were directly related to the stated pupil objectives. Both teacher and pupils understood the criteria by which pupils would demonstrate having acquired a new learning, practice, or application level. Given an end behavior, each level had an explicit measure (i.e., before I snap my fingers, the first time you see it and without hesitating, after you think about the parts).

While working with pupils, Forero would sometimes decide that a pupil was being held accountable at an inappropriate level. She would tell the pupil this and what she observed that made her change her mind. She said what the new criterion was and then shook hands with the pupil on the new agreement.

The third category was interactive decisions about an activity. Forero felt that if the pupils were working, an activity should flow with minimum problems. Thus, when there was a problem with an activity and she had determined it was not because pupils weren't working, she made an interactive

decision to stop or reorganize the activity. She said on these occasions, "I didn't teach this right and I have to figure out what to do to help you."

In this situation, she made specific decisions to (1) stop and, if needed, gather more data from pupils; (2) wait until she'd had time to preactively plan something different; and/or (3) change activities immediately or restructure the one that had stopped.

The fourth category was interactive decisions about pupil behavior. Forero allowed her classroom management behaviors to be guided by her desire to have pupils be responsible for their own behavior. The documented interactive decisions she made about management were based essentially on whether she or a pupil could or couldn't continue to work, and resulted in an interruption of the whole class or quiet interactions with a student or two.

Given the information that people were off task, she determined how the problem could be handled efficiently but in a way that would support pupil responsibility, not her external control. She felt that the cost of poor, on-the-spot decisions was more of her time spent on management.

At the beginning of Phase 5, Forero used both small-group and individual conferences for getting input for determining specific objectives for pupils. At the end of the conference the pupils were told what they had to learn and how they would demonstrate for the teacher that they had achieved the objective. Specifically, the interactive decisions she made during the conferences dealt with what the conditions or level of difficulty would be for a specific pupil's objective. In addition she would decide on the number of objectives a pupil would be required to achieve. Finally, she decided on the number of specific tasks the pupil was to complete during the unit of study.

While the unit of study progressed, she made interactive decisions concerning whether pupils had satisfactorily completed the identified tasks and

objectives. When she had observed the pupil's completed objectives at the specified level, she decided with the pupil on a new set of objectives. She and the pupil decided on additional activities to do, which were related to the unit and the new objectives. Thus, in adding more requirements Forero made interactive decisions concerning performance of next objectives and appropriate tasks.

At the end of Phase 5 the interactive decisions were concerned with adjusting specific pupil tasks and/or teacher expectations and with bringing organized closure to the study unit. When Forero observed that pupils were, for the most part, done with the original set of objectives for the unit, she then warned that the unit was going to end and pupils should complete anything they could or wanted to do.

Phase 6. Data Collection and Verification

Phase 6 involved the collection and verification of evaluative data. As the study unit closed, Forero met with each pupil. She evaluated what the pupil was able to do relative to the objectives the pupil had been assigned. She recorded this data. On occasion, to document individual pupil performance, she had the pupil complete a written evaluation test. The written tests required different pupils to do different things (color the box green, circle all suffixes) based on the criterion level of their objectives (e.g., recall, recognize, demonstrate).

The data from this phase helped her to verify her previous evaluation of pupils and her records. This is when she looked for data that conflicted with the decisions she had already made. She used the data to begin planning for a new unit of instruction, going back to Phase 1b for the beginning of a

new unit. This cycle occurred five or six times a year. Each cycle was an integrative unit of instruction.

Beliefs and Assumptions Governed this Teachers Decisions

Forero said she believed that the primary function of schooling was teaching personal and social responsibility. Her comments and behavior indicated that she felt academic learning was the major personal responsibility of students and that the major social responsibility was to help others learn. Other specific beliefs, which were behaviorally documented, included (1) use of evaluation data to determine pupil objectives and (2) students' motivation and responsibility gained through participation in decision making about their work.

During interviews and debriefing sessions, Forero repeatedly mentioned a set of assumptions as the rationale for content and process decisions. For example, initiating a problem-solving experience was based on her belief that pupils need to participate in the selection of what and how they study. Her selection of topics was based on her belief that each pupil must have some previous concrete experience that s/he can link to the new topic for study. She also referred to these items when explaining her reasons for making specific decisions about specific students. For example, she held students accountable for different levels of performance at different times. One student might be given several seconds to recognize sight words, but within a day or so, the pupil needed to get them within one second. However, until the student quickly (without disrupting the flow of reading) recognized the words in the book s/he was reading, no credit for "knowing" was given. Thus, Forero used her beliefs about "knowing" and "types of evaluation" in establishing procedures for practice and application.

In general, her decisions and behaviors were governed by a set of beliefs and assumptions that included knowledge from the areas of educational psychology, sociology, instructional psychology, growth and development, and classroom management and organization. I have used the categories of learning, evaluation, and the role of the teacher to classify her beliefs and assumptions (see Table 1).

Activity Flow Aids Forero's Decision Making

Forero made decisions as she maintained activity flow. These decisions can be explained in two ways. First, smooth activity flow was a primary goal for her. From one perspective, she initially established her role and the pupils' role in the environment to facilitate smooth flow of activities. From another perspective, she used personal and social responsibility and academic outcomes as the focus of her decisions and instruction. From this perspective, she viewed appropriate personal and social responsibility within a classroom as facilitating academic outcomes. Thus, from the activity flow, student and teacher behavior could be evaluated in terms of how well pupils were learning and how they were helping others to learn.

Her classroom management goals paralleled her curriculum and pupil goals. The management behaviors were taught, practiced, and evaluated during the first part of the year as a prerequisite to consistent long-term activity flow.

I observed an interesting interplay between the teacher's interactive decisions and activity flow when environmental distractions that might have disrupted pupils from accomplishing their tasks occurred. For example, visitors were not allowed to sit on the outskirts of the class. Instead, pupils were assigned to visitors and required to tell what and how they were

Table 1

Forero's Assumptions

Students	Enjoy learning. Are more likely to achieve when they plan their own outcomes and related activities. Will become responsible learners if given the opportunity and held accountable for responsible behavior. Will behave appropriately when taught how to distinguish between appropriate and inappropriate behavior for a given setting. Have a responsiblity to help other students learn.
Learning	Working with others (social interaction a la Piaget) is necessary for learning. Heterogeneous grouping and acceptance of diversity is necessary for genuine satisfaction.
Curriculum	Content that directly relates to students' previous concrete experiences has the most potential for being learned. Integration of content to include real-life examples helps students to better apply what they learn. Integration of content naturally incorporates the principle of teaching for transfer.
Evaluation	Is based on individuals' academic performance. Must include criteria of cooperation, participation by all group members, and meeting the subject-matter demands for group task completion. Must occur at both formative and summative levels.
Teacher	Holds a position of authority and responsibility. Speaks as an experienced, mature adult. Retains ultimate accountability and decision-making power. Solicits input. Seeks group consensus. Communicates rationales for decisions to pupils. Communicates decisions to pupils.

learning. The occasion was used to facilitate pupil accountability. Another example was unscheduled assemblies or pupils bringing unscheduled show-and-tell items to class. Unless the presentation clearly contributed to some student goal, it was not scheduled for presentation to the group. Forero discussed the reason for this with her pupils; then they carried out their planned agenda of events. If a pupil had a special show-and-tell item, s/he shared it with the teacher and a friend or two or scheduled an appropriate time for the next show-and-tell.

Because Forero remained in control of the class schedule, the routines and procedures she taught facilitated the integration of potentially disruptive events into the class agenda. Thus, many decisions made during the early part of the year were concerned with establishing routines and procedures to handle any future disruptions.

Second, she believed that distractions by pupils or external elements interfered with student learning and her instruction. She consciously taught pupils how to stay on task and to take responsibility for and monitor their learning. She taught them how to get, offer, and give help. She also taught them how to say no when they didn't need help or didn't know how to give the help requested. Consequently, pupil off-task behavior and related teacher responses were virtually nonexistent after approximately 25 days of school. In addition, the teacher also knew her own limits for distraction and taught the pupils not to do the things that distracted her. For example, she became conscious of students when more than one was waiting in a quiet line. Thus she taught the pupils to go back to their seats when they observed another pupil in line.

In summary, Forero effectively structured her classroom routine to maintain activity flow and keep pupils on task. After the initial period of

establishing the learning environment, she rarely had to respond to student behavior as a management problem. Almost all of her management responses to pupils were automatic. They appeared to be internalized or habituated responses. On other occasions when a conscious decision and response were necessitated, Forero used her projected pupil outcomes and "how we behave in this learning community classroom" as stated guidelines, which immediately directed and limited her responses.

Conclusions

Forero said she wanted her pupils to gain certain academic, personal, and social outcomes. The best way for them to learn these, she believed, was through a system that supported those outcomes. She described the system as a learning community. Her role as teacher in the learning community was influenced by what she considered her knowledge about instruction and learning, and what she determined were important pupil outcomes.

Four points seem important.

First, Forero consciously processed information and made decisions. The nature of the information and decisions appears to be different from what teachers are reported to do in other studies.

Second, while others viewed her schemata as extremely complex, she actually viewed them as organizing structures to simplify the teaching task.

Third, while her schemata appeared to be complex, her use of resources was unusually simple. She avoided many types of materials typically used in other classrooms. She seemed to be resource conscious. For example, instead of finding 12 different assignments for 12 different skills, she used one experience story that incorporated the 12 skills. She used sets of materials many times over for a wide variety of purposes. (This meant that pupils kept

track of things for weeks.) I had the impression that all the materials Forero used with her pupils could be placed in one grocery bag.

A fourth point is that she simplified her teaching by using a variety of recording systems that did not depend on her for their maintenance. For example, she established elaborate and visually attractive recording systems. These contributed to the pupils' ability to record when tasks were completed and when certain levels of learning were achieved. Forero could easily glance at them while she interacted with individual students.

In summary, Forero decided that instructional interactions were a priority for producing her intended outcomes. She recognized her information processing limitations and thus established a management system that did not require her attention to function properly and maximized the potential for learning to occur. She also recognized the importance of providing an instructional context that promoted multiple objectives and allowed her the thinking space and opportunity to individualize instruction. Doing all of this required elaborate schemata. Knowing that there is a complexity to the teacher's ideas and to their implementation is very important. First, it is important that teacher educators know that teachers do develop complex schemata on which they operate. Second, her schemata, as she understood them, screened out many things other teachers choose to consider (e.g., what the principal will say, how to punish a student, what to do when many students don't attend or do their homework); thus, logically, she had time to think about those things she considered necessary.

In this study, I have described one teacher who does make conscious, data-based, preactive and interactive decisions. Many reasons may explain why researchers have had difficulty documenting the teacher decision-making process. Two possibilities are worth particular consideration. First,

researchers may have been looking at the wrong teachers. It is apparent that some teachers function from a textbook-processing philosophy. Second, they may not have employed the most beneficial data-collection techniques and/or may have been asking the wrong questions.

Whatever the reasons for difficulty in documenting preactive and interactive decisions, this study makes two things apparent. First, the decision-making process is complex, and second, at least one teacher uses knowledge and beliefs as a basis for her actions.

Brophy (1982) reviewed research about how teachers determine the intended curriculum their students will learn. He also discussed the unintended reductions and/or distortions that occurred when they attempted to implement the intended curriculum. These two concepts seem to get at the problem of the teacher controlling environment versus the environment controlling the teacher. Thus, of particular interest for future study are the concepts of reduction and/or distortion of the curriculum planned by the teacher. These are the things that occur as a result of the teacher's interactive decisions and the need to maintain activity flow.

The need for teachers to respond during instruction to students and environmental factors is a given. Therefore, learning how teachers maintain activity flow while allowing little reduction and/or distortion in the learning of the planned curriculum is of critical importance.

It appears that Brophy's idea of the intended curriculum and its reduction and/or distortion provides researchers with a way to consider what they should look for and what questions to ask as they continue to study teachers in practice. The teacher studied here did exert power over the environmental factors rather than letting them control her.

In conclusion, it appears that some teachers do use systematic decision-making models and do make preactive and interactive decisions. It is important to understand the content of what a given te cher chooses to process in order to understand the models and types of decisions teachers make.

Identifying the basis for decisions, the individual decision model, and the content of decisions for effective teachers may prove to be helpful to teachers and teacher educators. If a variety of models and the related bases for decisions are identified, these can be analyzed in light of the outcomes that result. Teacher educators could then help teachers and teacher candidates explore their own actions in light of those that have been documented.

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